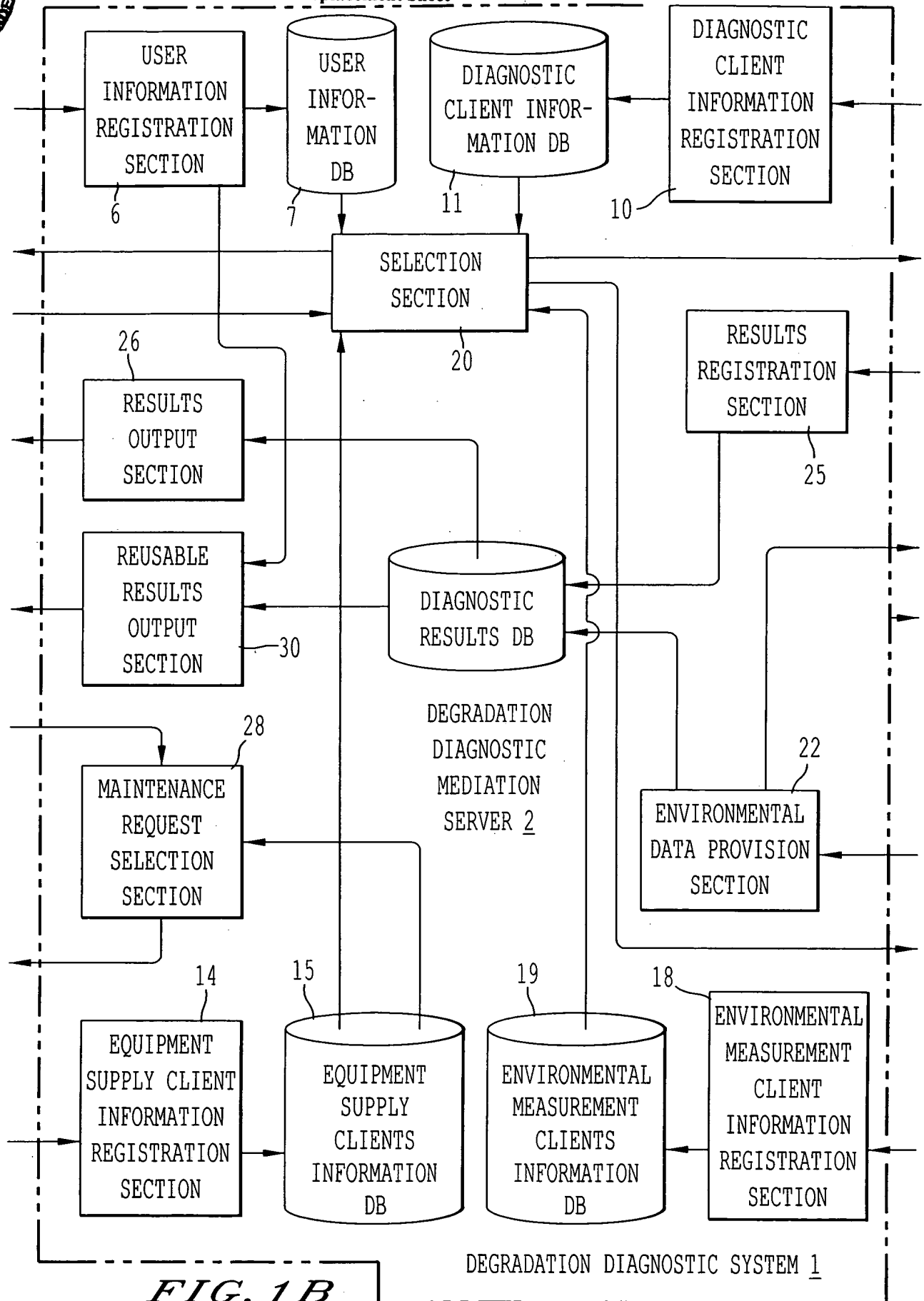
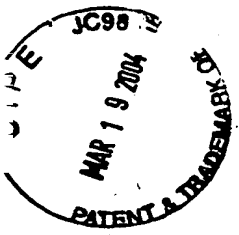


FIG. 1A



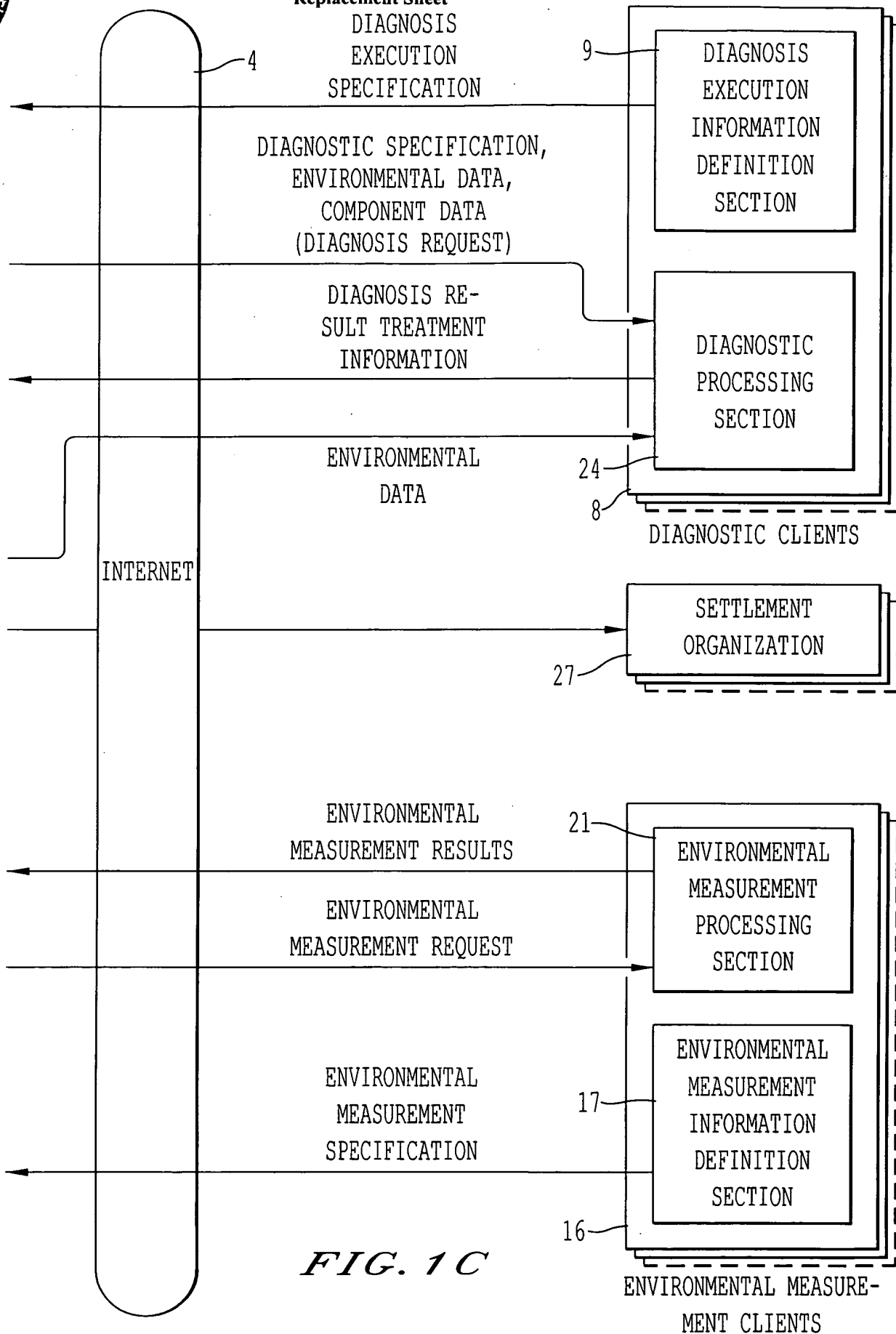
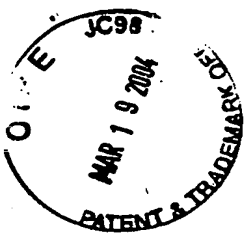
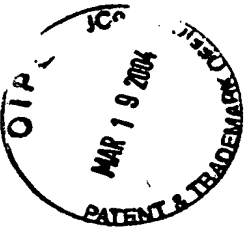
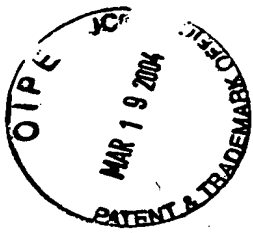


FIG. 1C



	DESIRED DIAGNOSIS FEE	EQUIPMENT DESIRED TO BE DIAGNOSED	PRECISION OF DIAGNOSIS	AIR TEMPERATURE	HUMIDITY	CONCENTRATION OF CHLORINE GAS	--
USER a1	300,000 yen	CONTROL PANEL	DEGRADATION DIAGNOSIS	30	80	0.03 ppm	--
USER a2	500,000 yen	CIRCUIT BOARD	DEGRADATION DIAGNOSIS	20	60	0.08 ppm	--
USER a3	1,000,000 yen	LOGIC IC	LIFE DIAGNOSIS	20	60	0.07 ppm	--
USER a4	200,000 yen	RELAY BOARD	DEGRADATION DIAGNOSIS	15	NOT KNOWN	NOT KNOWN	--
-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	--
-	-	-	-	-	-	-	--

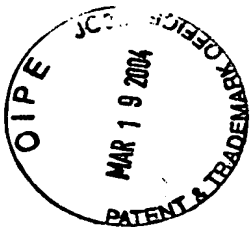
FIG. 2



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	DIAGNOSTIC FEE	EQUIPMENT TO BE DIAGNOSED	PRECISION OF DIAGNOSIS	ENVIRONMENTAL DATA REQUIRED	EQUIPMENT INFORMATION REQUIRED	--
DIAGNOSTIC SERVICE PROVIDER b1	500,000 yen	CONTROL DEVICE	LIFE DIAGNOSIS	AIR TEMPERATURE, CONCENTRATION OF CHLORINE...	DATE OF INSTALLATION...	--
DIAGNOSTIC SERVICE PROVIDER b2	3,000,000 yen	EWS	DEGRADATION DIAGNOSIS	AIR TEMPERATURE, AMOUNT OF DUST...	...	--
DIAGNOSTIC SERVICE PROVIDER b3	1,000,000 yen	ORDINARY IC	LIFE DIAGNOSIS	HUMIDITY...	DATE OF MANU- FACTURE OF THE IC, TYPE OF SEALING FILM	--
DIAGNOSTIC SERVICE PROVIDER b4	100,000 yen	CIRCUIT BOARD	DEGRADATION DIAGNOSIS	HUMIDITY, CHLORINE CONCENTRATION...	WIDTH OF WIRING, TYPE OF RESIST	--
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

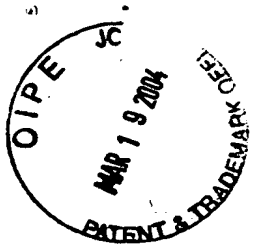
FIG. 3



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	EXAMINATION FEE	ENVIRONMENTAL DATA CAPABLE OF BEING EXAMINED	--
ENVIRONMENTAL MEASURER c1	50,000 yen	AIR TEMPERATURE, HUMIDITY	--
ENVIRONMENTAL MEASURER c2	300,000 yen	AMOUNT OF DUST	--
ENVIRONMENTAL MEASURER c3	100,000 yen	CONCENTRATION OF VARIOUS GASES; ONE TYPE	--
ENVIRONMENTAL MEASURER c4	100,000 YEN	AIR TEMPERATURE, HUMIDITY, AMOUNT OF WIND	--
-	-	-	-
-	-	-	-
-	-	-	-

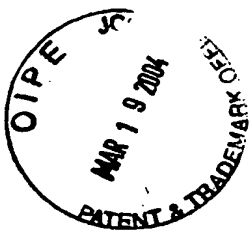
FIG. 4



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	TYPE OF EQUIPMENT	VARIOUS RATINGS	--
EQUIPMENT SUPPLIER d1	LOGIC IC	COPPER WIRING, WIRING WIDTH 15 micron...	--
EQUIPMENT SUPPLIER d2	CIRCUIT BOARD	COPPER PATTERN, WIRING WIDTH 0.25mm, WIRING SEPARATION 0.5mm...	--
EQUIPMENT SUPPLIER d3	MY TYPE RELAY	METAL JOINT, CONTACT RESISTANCE 0.1mΩ, COIL: ENAMEL COATING...	--
EQUIPMENT SUPPLIER d4	CIRCUIT BOARD (BEFORE '94)	COPPER PATTERN, WIRING WIDTH 2mm, WIRING SEPARATION 2mm, NO RESIST FILM	--
-	-	-	--
-	-	-	--
-	-	-	--

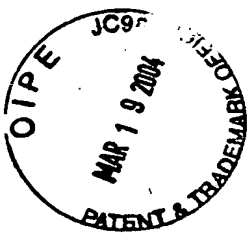
FIG. 5



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	ENVIRONMENTAL DATA REQUIRED FOR DIAGNOSIS					DIAGNOSIS FEE
	A	B	C	D	E	
DIAGNOSTIC SERVICE PROVIDER b1	<input type="radio"/>	<input type="radio"/>				Fa
DIAGNOSTIC SERVICE PROVIDER b2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			Fb
DIAGNOSTIC SERVICE PROVIDER b3	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		Fc
DIAGNOSTIC SERVICE PROVIDER b4	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fd

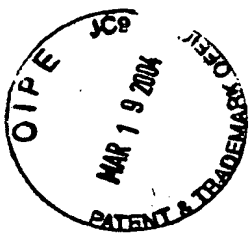
FIG. 6



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	ENVIRONMENTAL DATA CAPABLE OF EXAMINATION					MEASUREMENT FEE
	A	B	C	D	E	
ENVIRONMENTAL MEASURER c1	○	○			○	F1
ENVIRONMENTAL MEASURER c2			○	○	○	F2
ENVIRONMENTAL MEASURER c3	○		○		○	F3
ENVIRONMENTAL MEASURER c4			○		○	F4
ENVIRONMENTAL MEASURER c5		○			○	F5

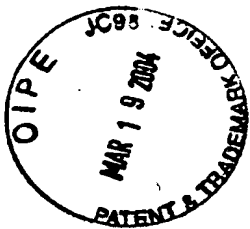
FIG. 7



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	DEFICIENT ENVIRON- MENTAL DATA	ENVIRONMENTAL MEASURERS CAPABLE OF EXAMINING THE DEFICIENT ENVIRONMENTAL DATA
DIAGNOSTIC SERVICE PROVIDER b1	B	c1, c5
DIAGNOSTIC SERVICE PROVIDER b2	B	c1, c5
DIAGNOSTIC SERVICE PROVIDER b3	D	c2
DIAGNOSTIC SERVICE PROVIDER b4	D, E	c2

FIG. 8



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DESIRED FEE: M

	DIAGNOSTIC SERVICE PROVIDER	ENVIRONMENTAL MEASURER	DIAGNOSIS FEE
CANDIDATE 1	b4	c2	Fd + F2 + m
CANDIDATE 2	b3	c2	Fc + F2 + m
CANDIDATE 3	b2	c5	Fb + F5 + m
CANDIDATE 4	b2	c1	Fb + F1 + m
CANDIDATE 5	b1	c5	Fa + F5 + m
CANDIDATE 6	b1	c1	OVER BUDGET

FIG. 9

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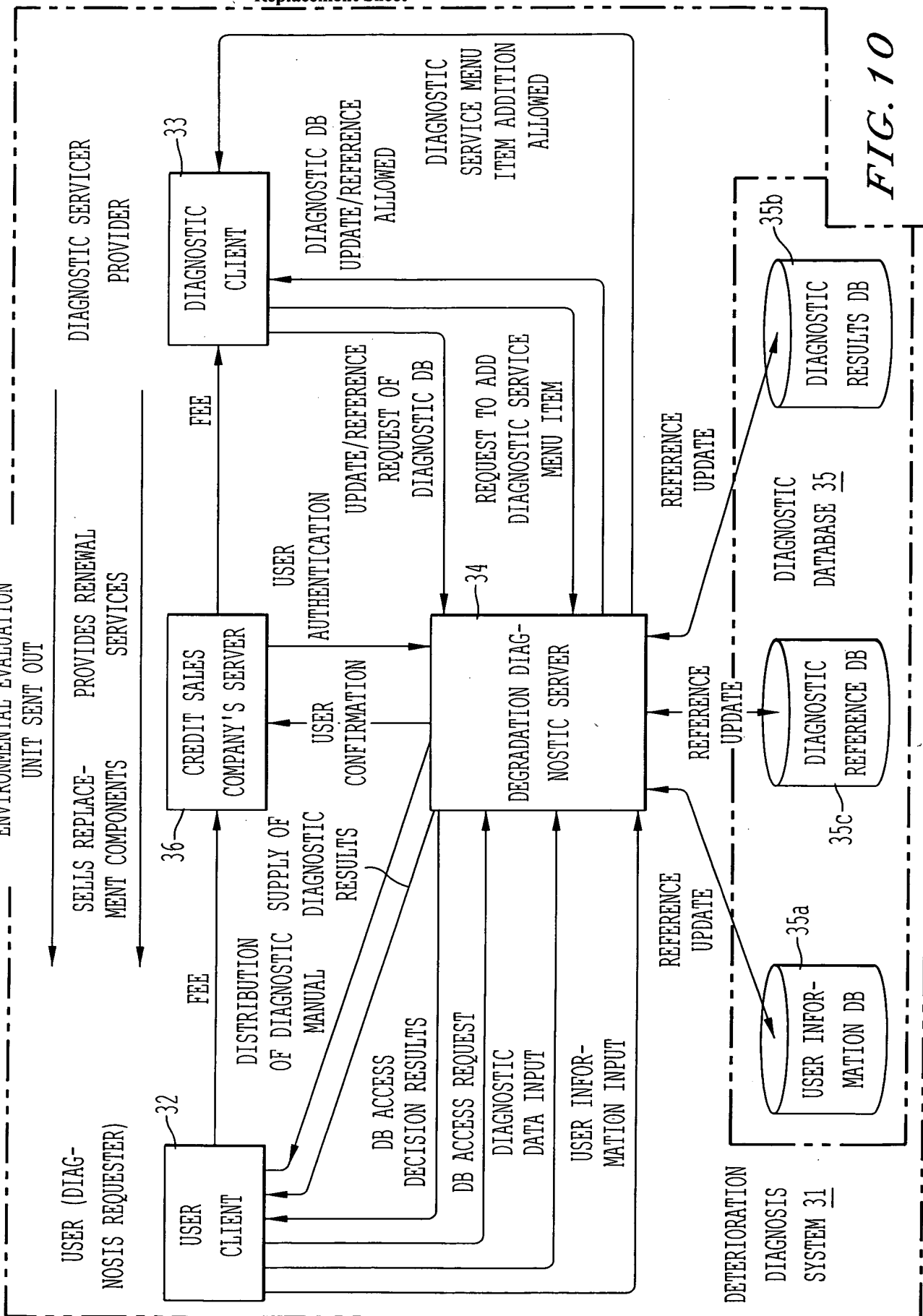


FIG. 10

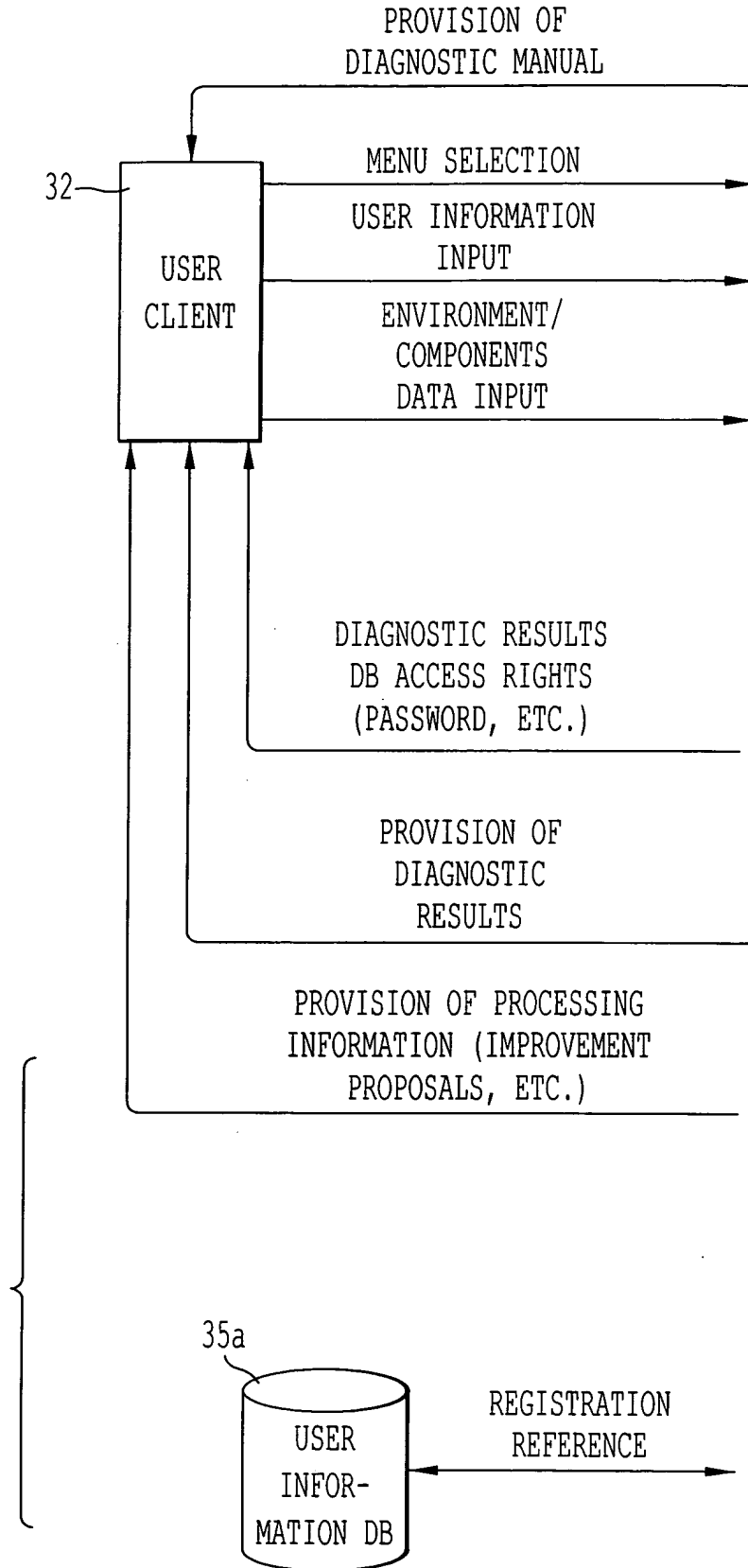
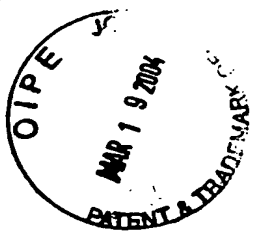
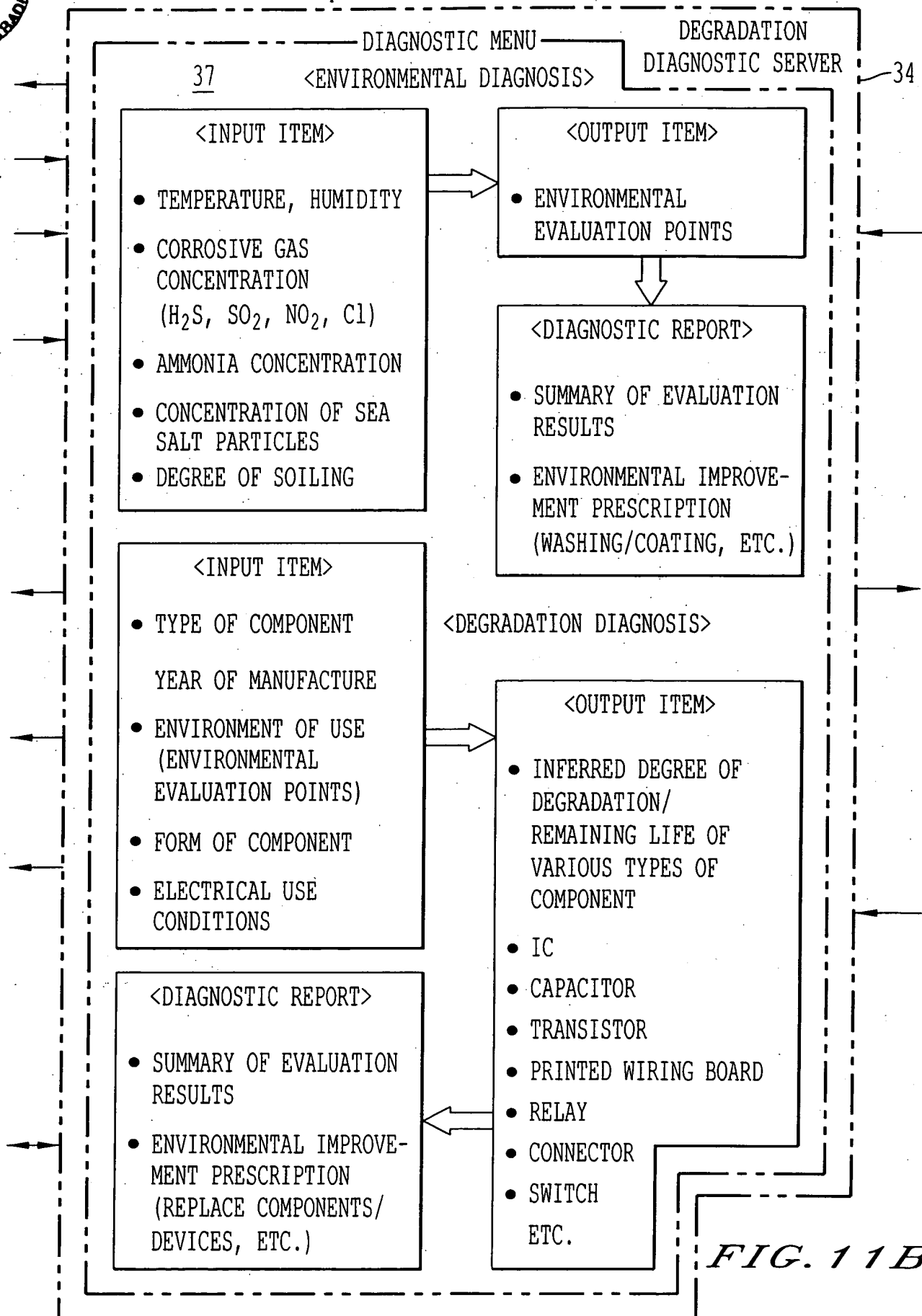
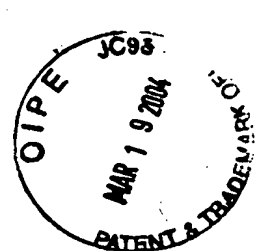


FIG. 11A



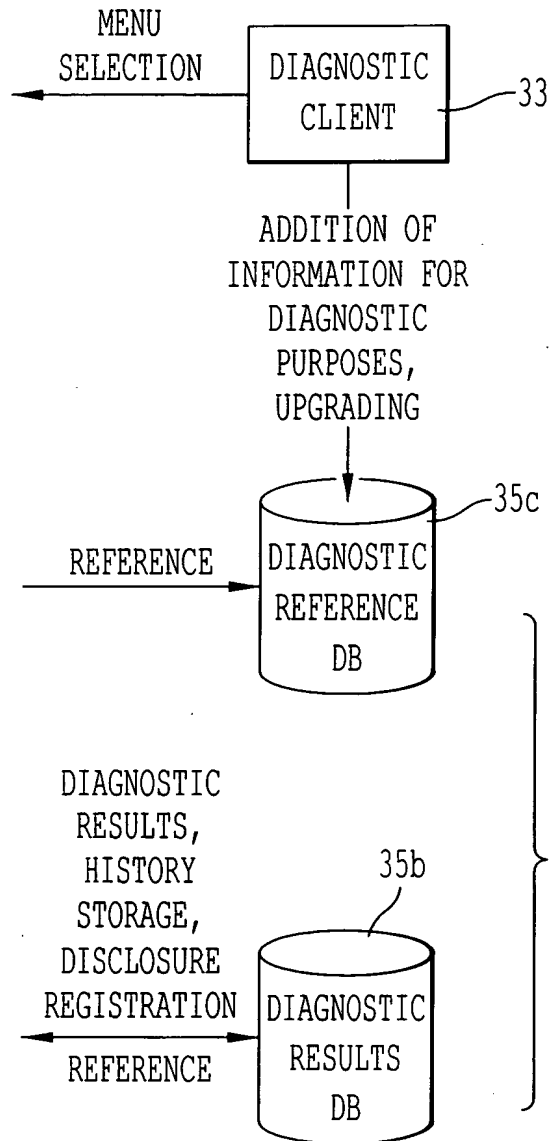
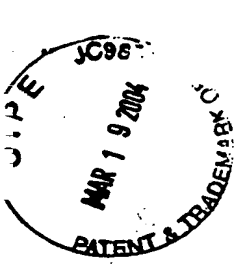


FIG. 11C

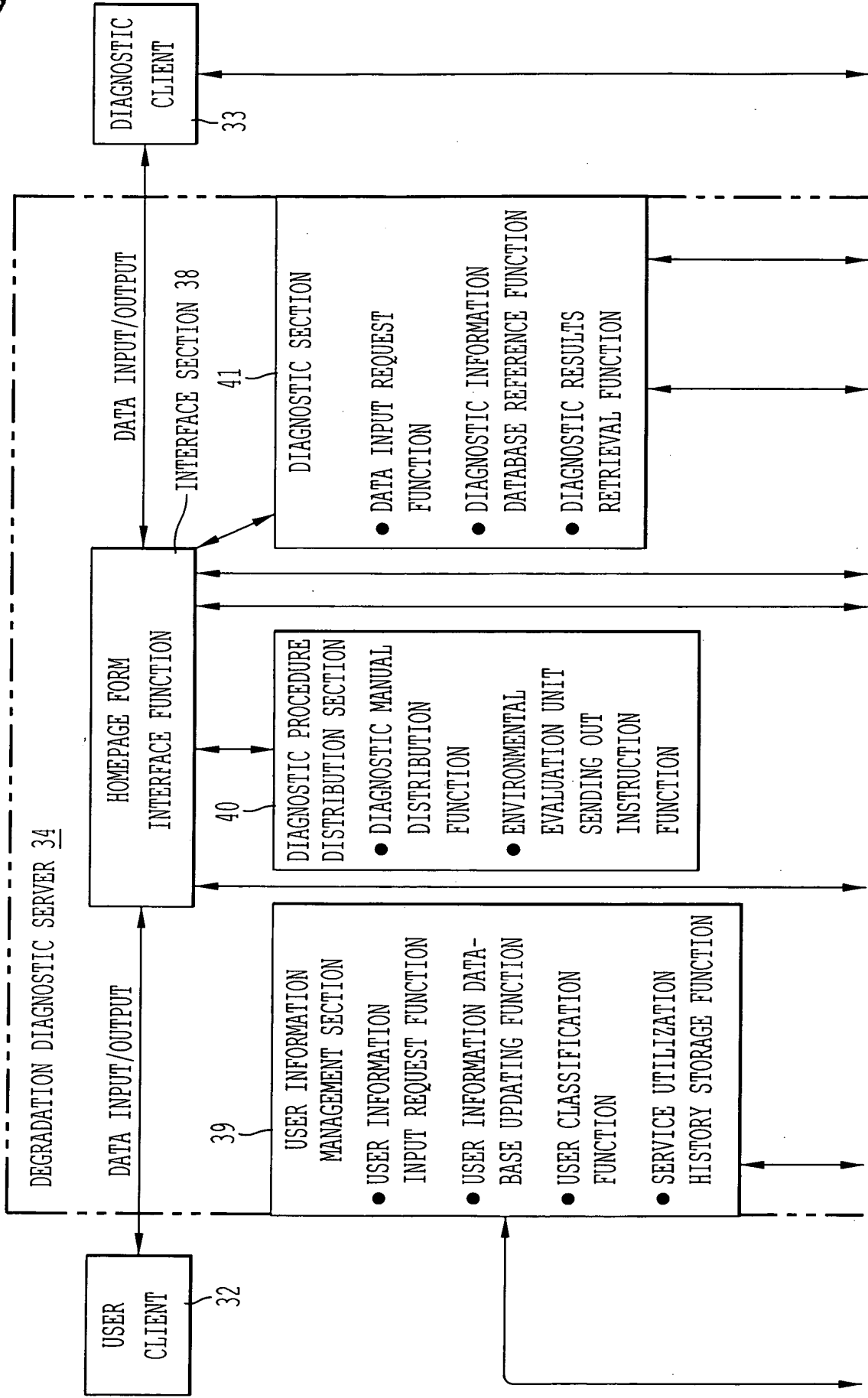
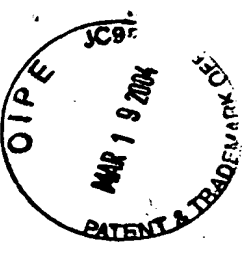


FIG. 12A

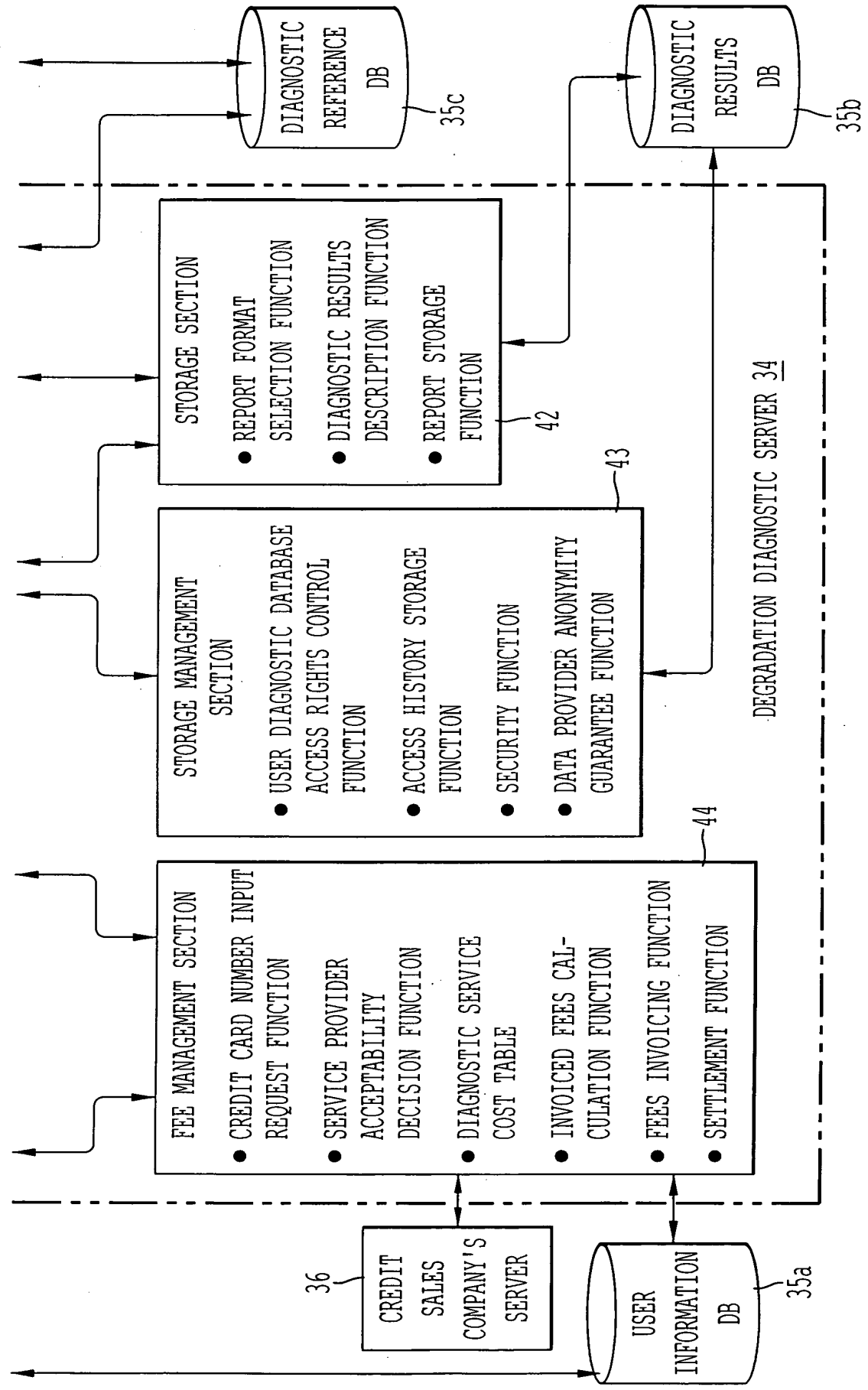
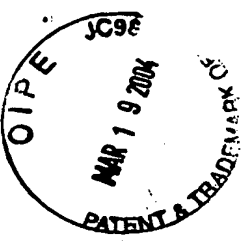
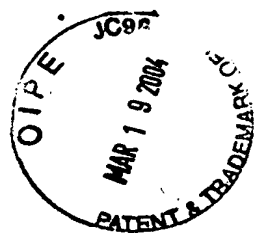
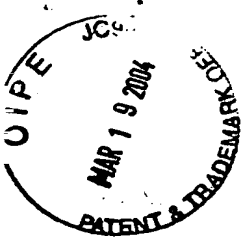


FIG. 12B



ENVIRONMENTAL FACTORS			RANGES			
			I	II	III	IV
TEMPERATURE (°C)	ANNUAL AVERAGE	A	20 OR LESS	20 < AND ≤ 50	25 < AND ≤ 30	MORE THAN 30
RELATIVE HUMIDITY (%)	RAINY SEASON AVERAGE	B	60 OR LESS	60 < AND ≤ 70	70 < AND ≤ 85	MORE THAN 85
	ANNUAL AVERAGE		50 OR LESS	50 < AND ≤ 60	60 < AND ≤ 75	MORE THAN 75
GAS (ppm)	SULPHUR DIOXIDE (SO ₂)	C1	0.04 OR LESS	0.04 < AND ≤ 0.08	0.08 < AND ≤ 0.2	0.2 < AND ≤ 5
	NITROGEN DIOXIDE (NO ₂)	C2	0.02 OR LESS	0.02 < AND ≤ 0.05	0.05 < AND ≤ 0.1	0.1 < AND ≤ 5
	HYDROGEN SULPHIDE (H ₂ S)	C3	0.003 OR LESS	0.003 < AND ≤ 0.01	0.01 < AND ≤ 0.1	0.1 < AND ≤ 10
	CHLORINE GAS (Cl ₂)	C4	0.002 OR LESS	0.002 < AND ≤ 0.01	0.01 < AND ≤ 0.1	0.1 < AND ≤ 1
	AMMONIA GAS (NH ₃)	C5	0.1 OR LESS	0.1 < AND ≤ 1	1 < AND ≤ 10	10 < AND ≤ 100
DEGREE OF SOILING	EQUIVALENT SALT DEPOSITION RATE (mg/cm ² /year)	D	0.03 OR LESS	0.03 < AND ≤ 0.06	0.06 < AND ≤ 0.12	MORE THAN 0.12
	DISTANCE FROM COAST (km)		MORE THAN 2	1 < AND ≤ 2	0.5 < AND ≤ 1	LESS THAN 0.5

ENVIRONMENTAL
RANGE TABLE 45
FIG. 13

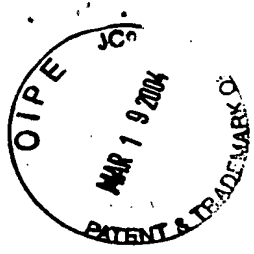


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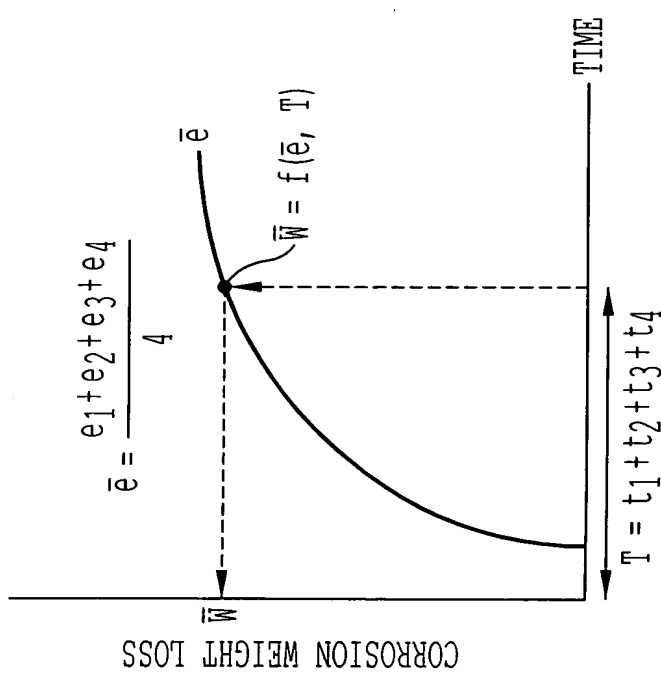
ENVIRONMENTAL FACTOR WEIGHTING TABLE 46

ENVIRONMENTAL FACTOR	RANGE			
	I	II	III	IV
A	1	2	4	8
B	1	8	16	24
C1	1	3	6	9
C2	1	3	6	9
C3	1	8	14	20
C4	1	10	20	30
C5	1	2	4	8
D	1	8	15	24

FIG. 14

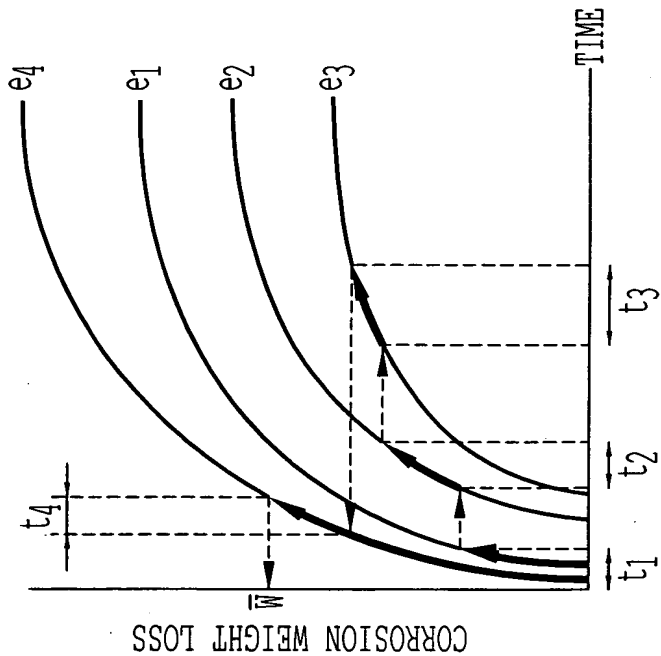


PROCESS OF DERIVATION OF METAL CORROSION
 WEIGHT LOSS AT A GIVEN TIME $T = t_1 + t_2 + t_3 + t_4$



PROCESS OF DERIVATION OF
 MEAN CORROSION WEIGHT LOSS

FIG. 15A



PROCESS OF DERIVATION OF
 PRECISE CORROSION WEIGHT LOSS

FIG. 15B

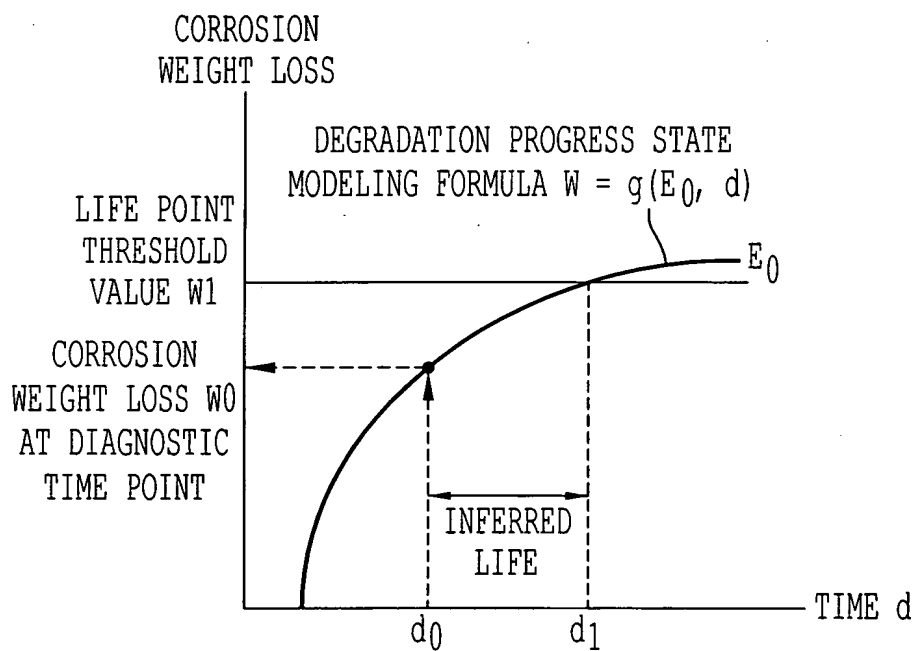
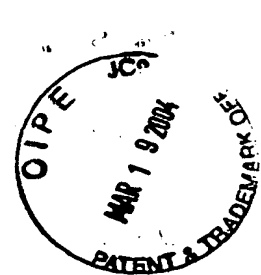
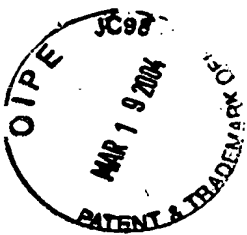


FIG. 16



ENVIRONMENTAL EVALUATION POINTS ZONE TABLE 47

ATMOSPHERIC ENVIRONMENTAL RANGES		I		II		III		IV		V	
		MEASURED VALUES	EVALUATION POINTS	MEASURED VALUES	EVALUATION POINTS	MEASURED VALUES	EVALUATION POINTS	MEASURED VALUES	EVALUATION POINTS	MEASURED VALUES	EVALUATION POINTS
ENVIRONMEN- TAL FACTORS	TEMPERATURE (°C)	A ≤ 20	1	≤ 25	2	≤ 30	4	≤ 35	8	> 35	12
	RELATIVE HUMIDITY (%RH)	B ≤ 60	1	≤ 65	6	≤ 70	12	≤ 80	24	> 80	36
	CORROSIVE GAS (mdd)	CO2	1	≤ 0.05	4	≤ 0.2	8	≤ 0.5	16	> 0.5	24
		SO3	1	≤ 0.05	6	≤ 0.2	12	≤ 0.5	24	> 0.5	36
		H2S	1	≤ 0.05	3	≤ 0.2	6	≤ 0.5	12	> 0.5	18
		NO2	1	≤ 0.05	7	≤ 0.2	14	≤ 0.5	28	> 0.5	42
		C1	1	≤ 0.1	3	≤ 1.0	6	≤ 10	12	> 10	18
		NH3	1	≤ 0.03	5	≤ 0.1	10	≤ 0.3	20	> 0.3	30
	SEA SALT PARTICLES	≤ 0.01	1	≤ 0.03	5	≤ 0.1	10	≤ 0.3	20	> 0.3	30
	SEA SALT PARTI- CLES (mdd)	≤ 0.01	1	≤ 0.03	5	≤ 0.1	10	≤ 0.3	20	> 0.3	30
	DISTANCE FROM COAST (km)	< 2.0	1	≤ 1.5	5	≤ 1.0	10	≤ 0.5	20	< 0.5	30

FIG. 17

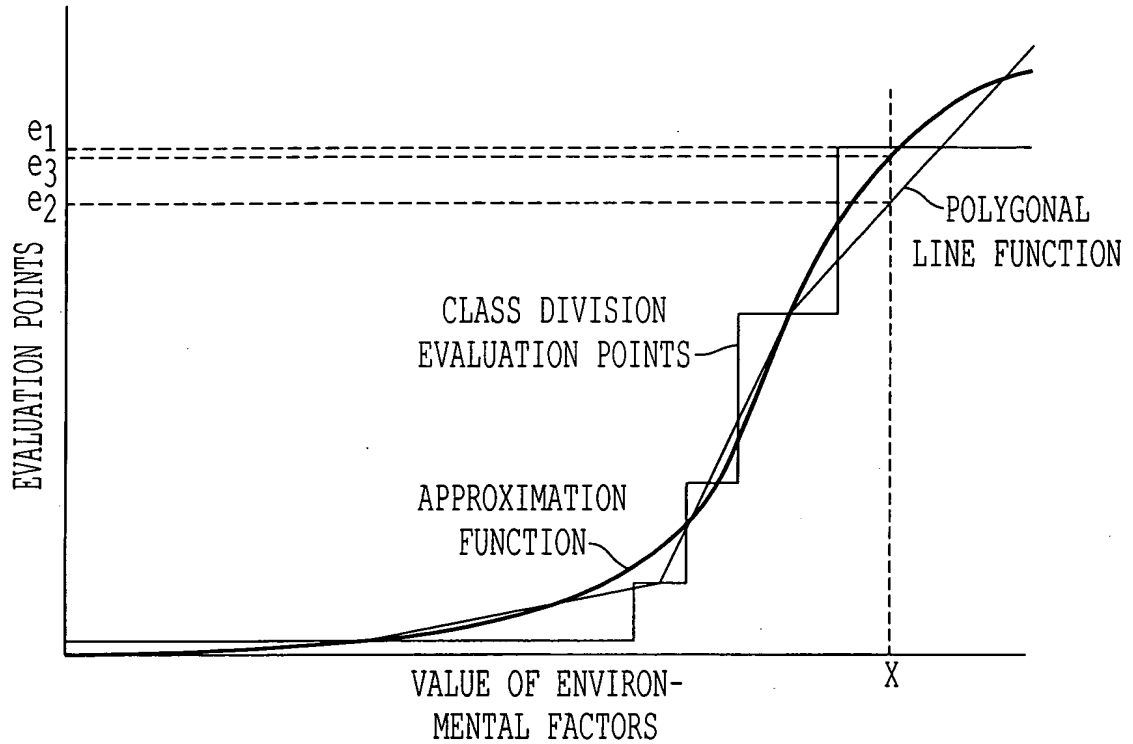
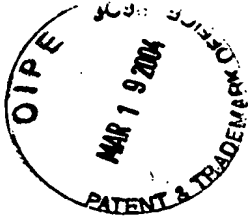


FIG. 18

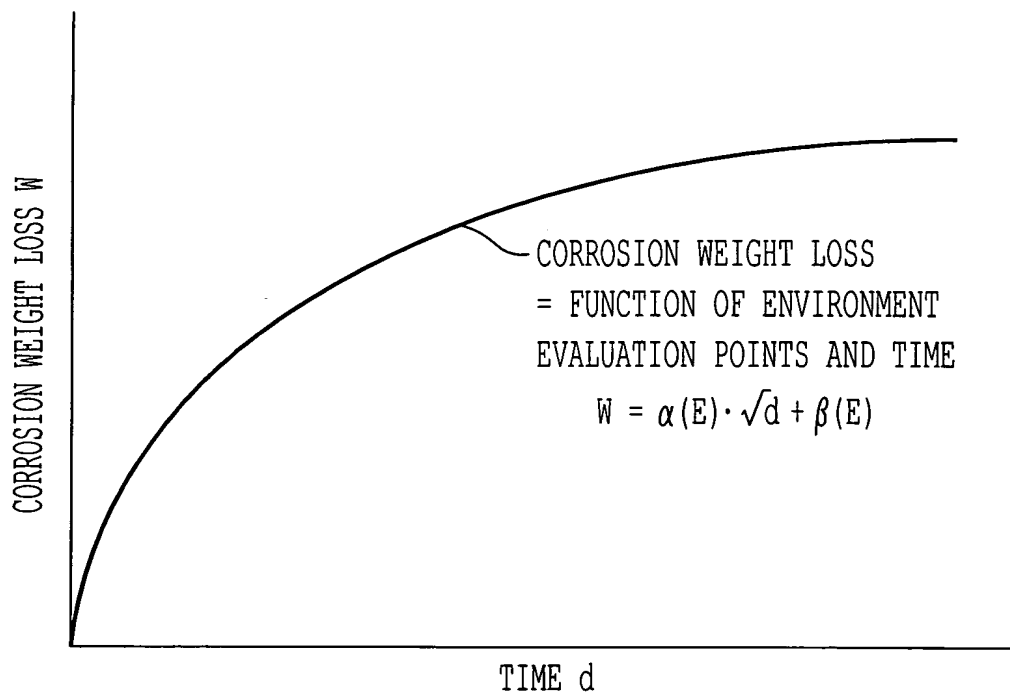
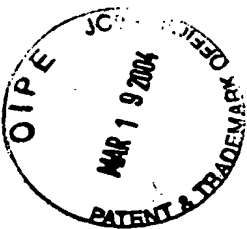


FIG. 19

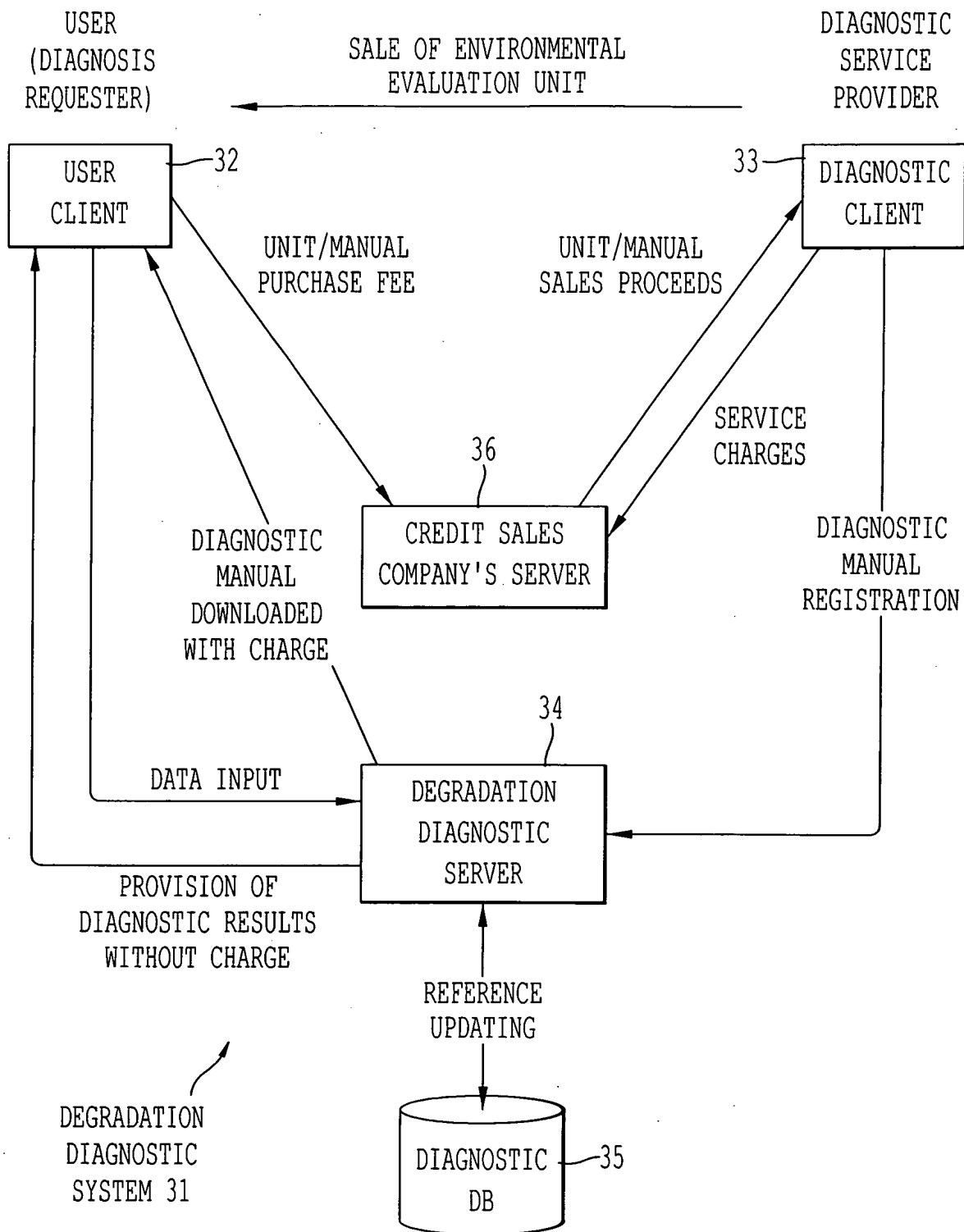
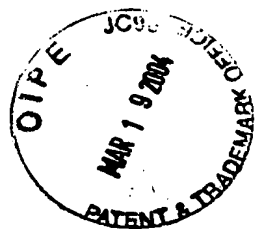


FIG. 20

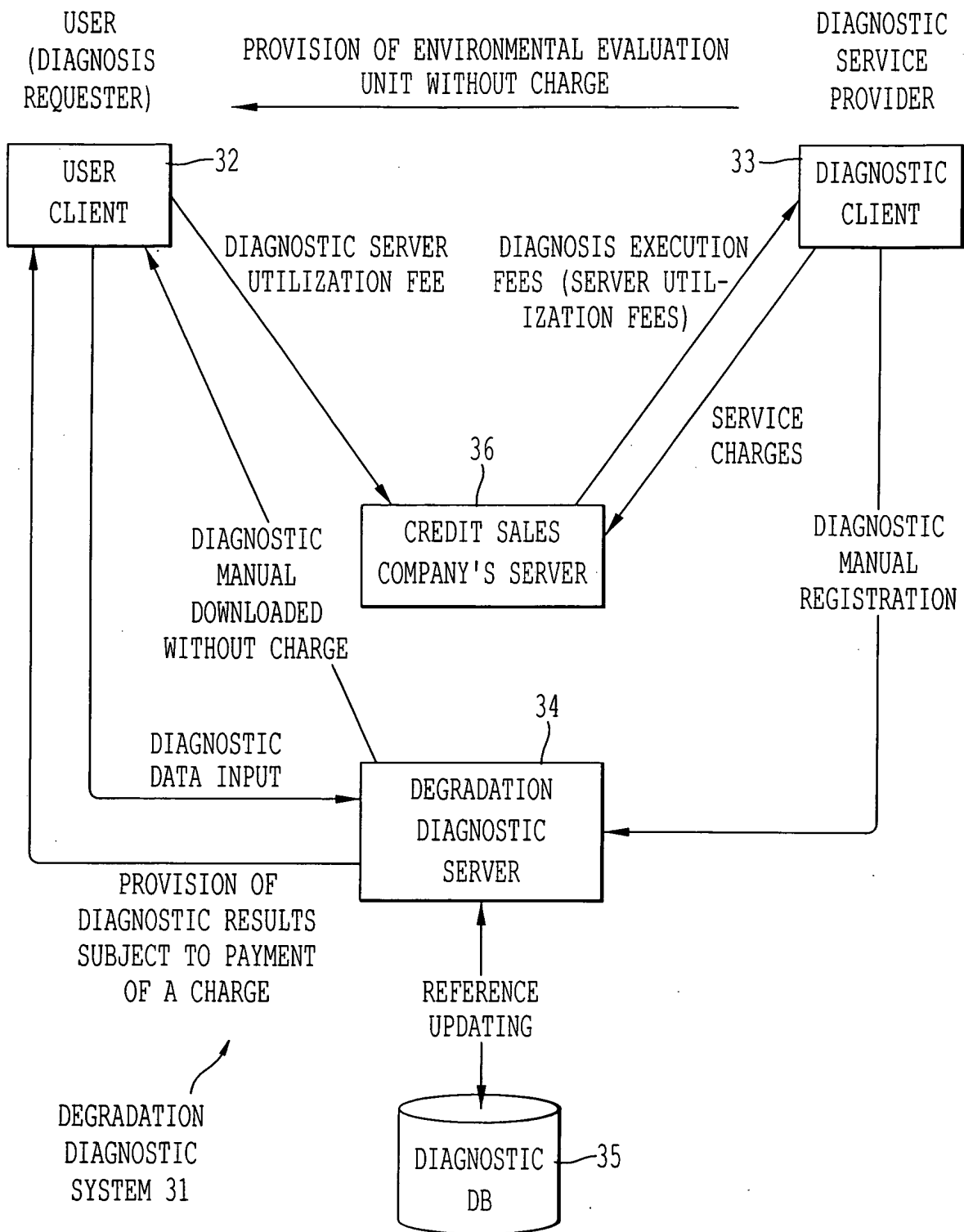
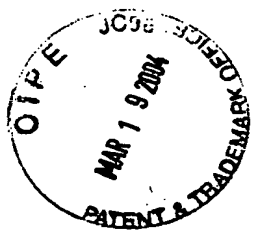


FIG. 21

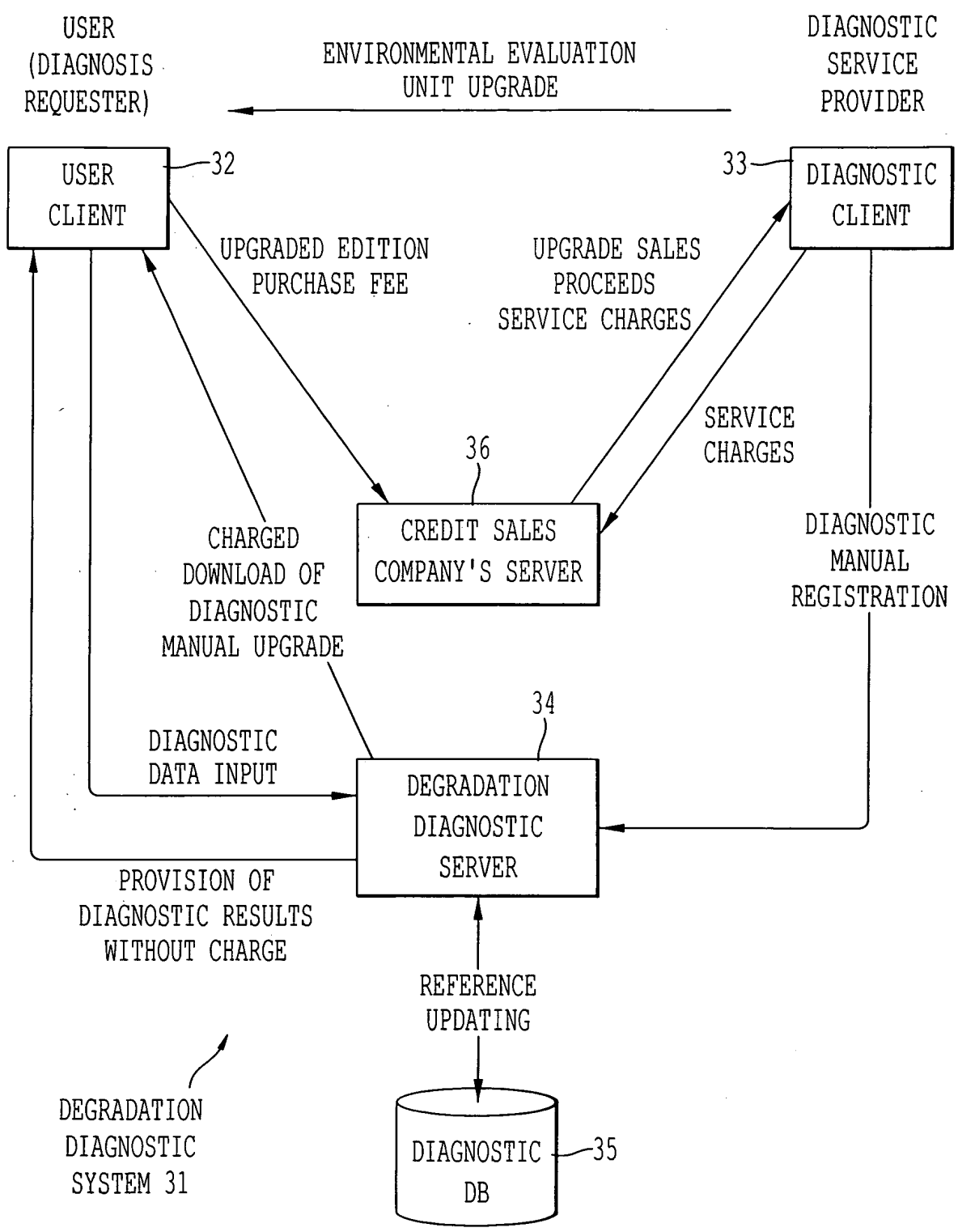


FIG. 22

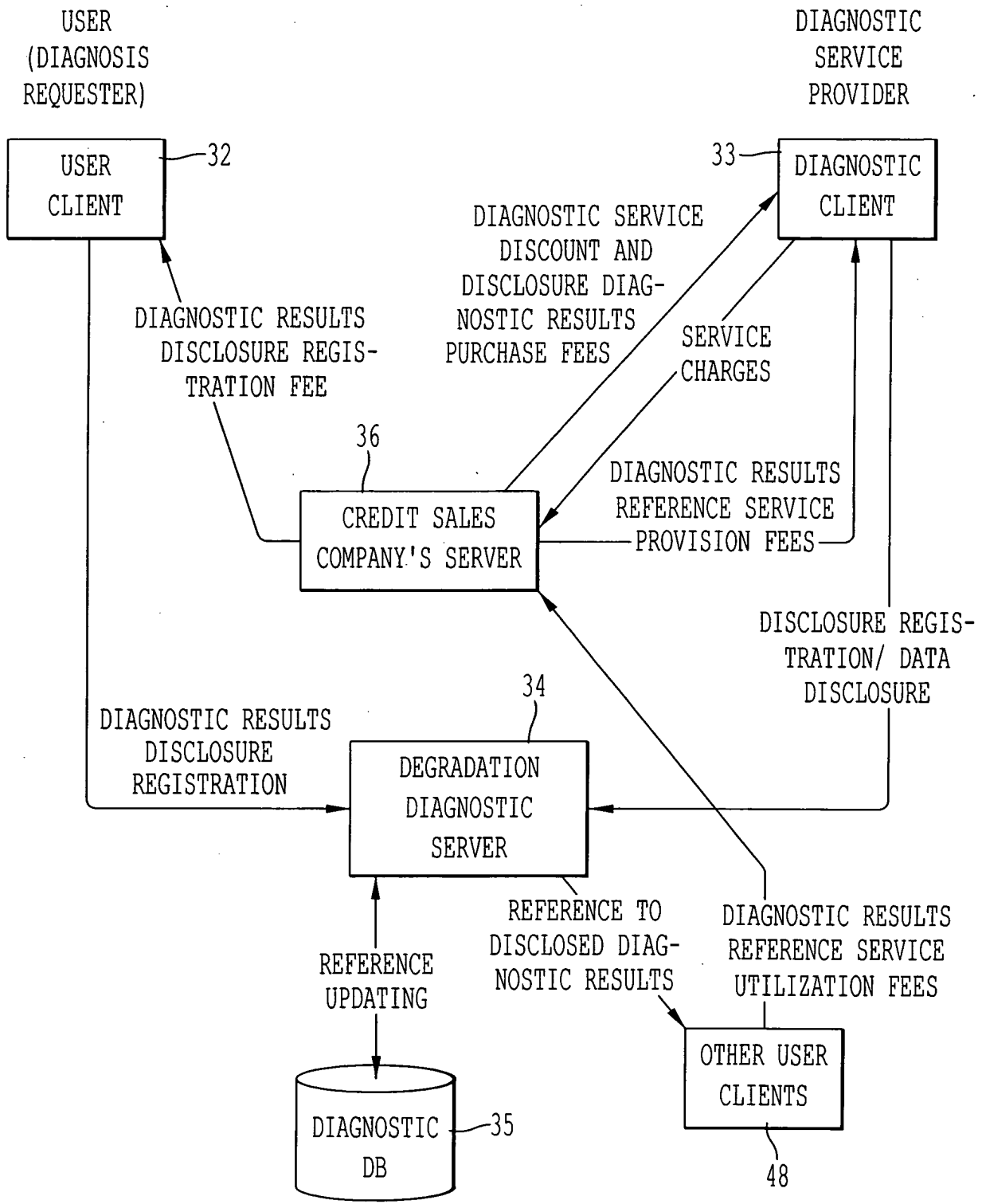
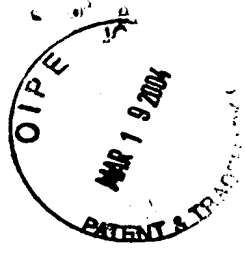


FIG. 23

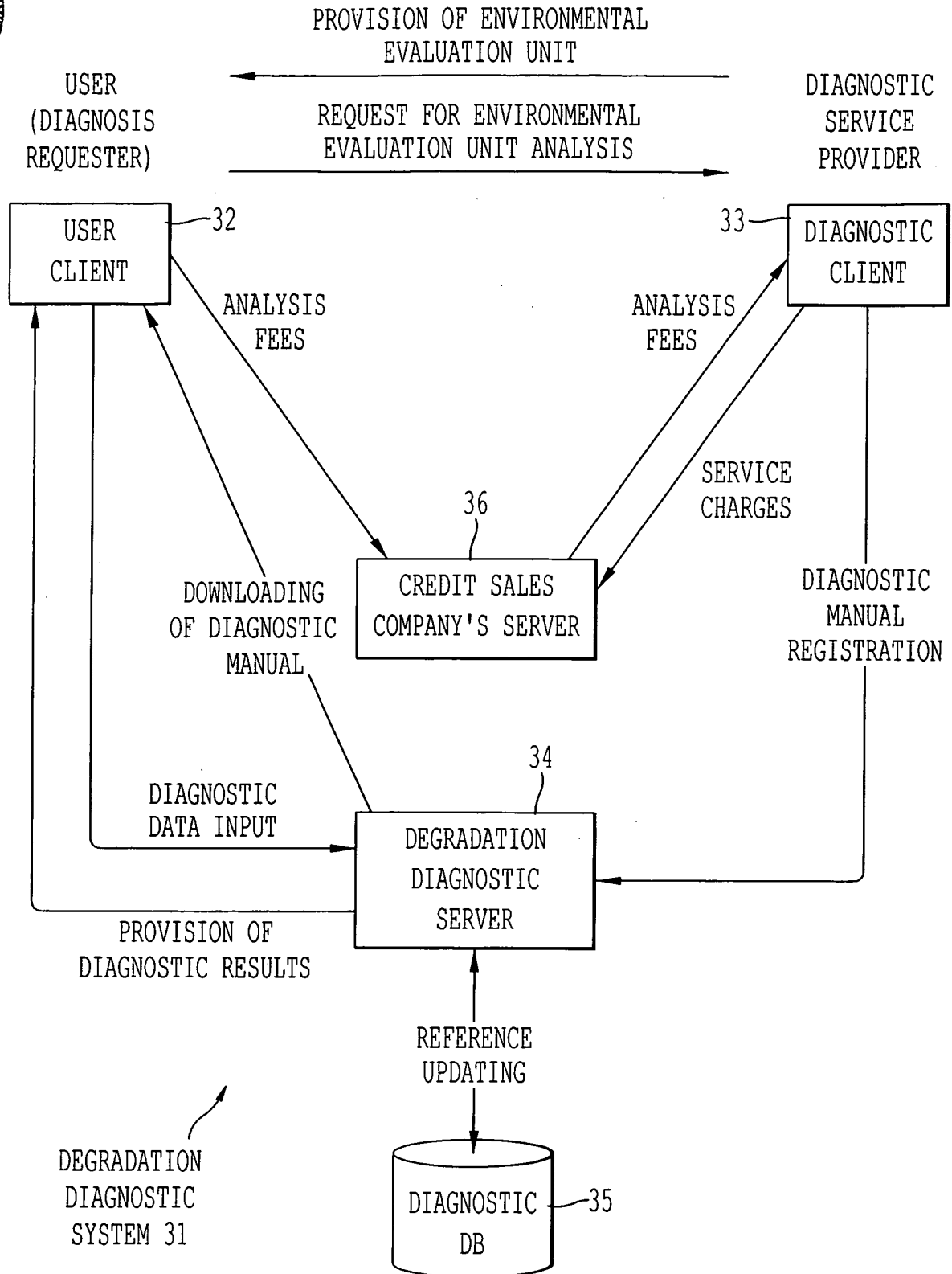
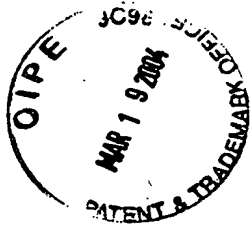


FIG. 24

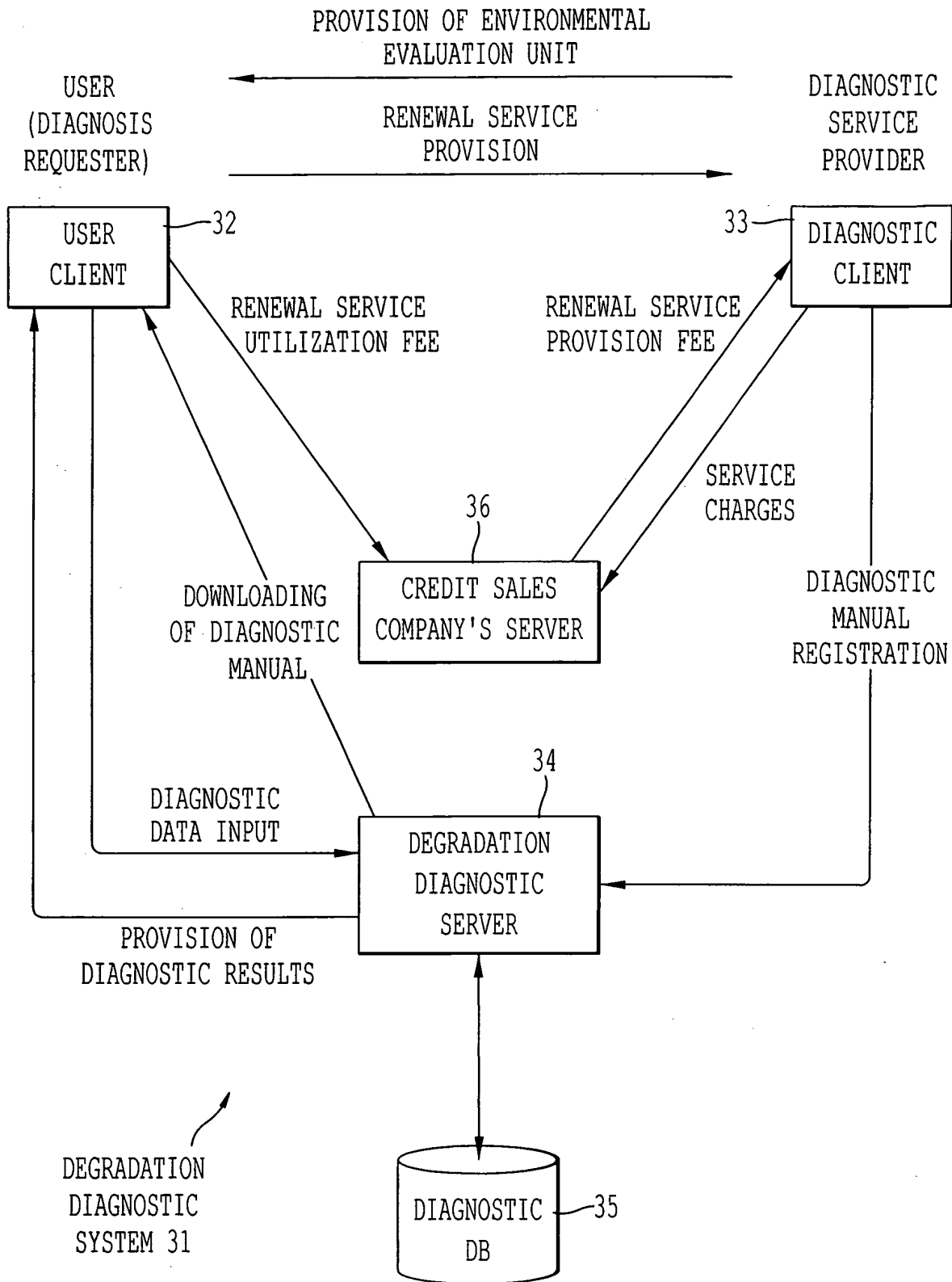
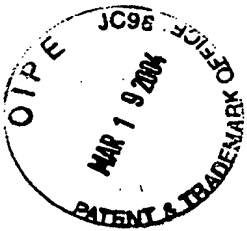


FIG. 25

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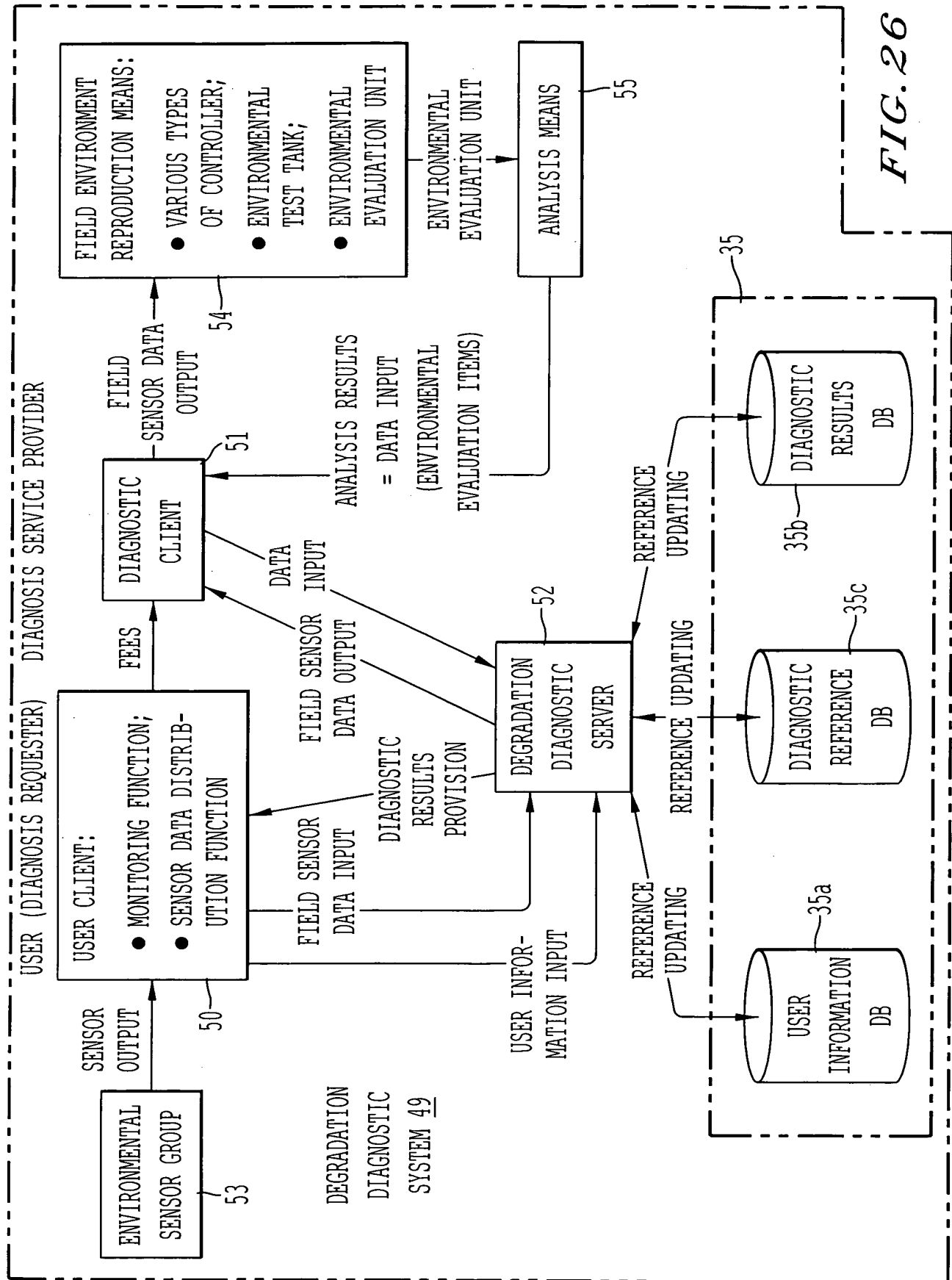


FIG. 26